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a filler material.

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- 1 8. The composition of claim 1 wherein said flexibilizing agent is selected from the
2 group consisting of polysulfones, polyetherimide, polyamideimides, polyarylene ethers,
3 polyesters, polyarylates, polycarbonates, polyurethanes, hydroxy-terminated polysulfone
4 oligomers, 1,4-butane-diol diglycidyl ethers, neopentylglycol diglycidyl ether,
5 cyclohexane dimethanol diglycidyl ether, trimethylol ethane triglycidyl ethers,
6 dibromoneopentylglycol glycidyl ethers, propoxylated glycerol polyglycidyl ether,
7 polypropylene glycol glycidyl ether, polyglycidyl ether of castor oil, dimer acid
8 diglycidyl esters, resorcinol diglycidyl ether, epoxidized propylene glycol dioleates,
9 epoxy esters, 1,2-tetradecane oxides, internally epoxidized 1,3-butadiene
10 homopolymers, diglycidyl ether, glycidyl glycidate, bis(2,3-epoxy-2-methylpropyl)ether,
11 polyglycoldiepoxides, E-caprolactone triol, copolymers of styrene, butyl rubber,
12 neoprene, polysiloxanes, carboxyl terminated poly n-butylacrylates, maleic anhydride
13 terminated rubbers, epoxy functionalized rubbers, fluoridized rubbers, and hydroxylated
14 or carboxylated EPDM rubbers.

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- 1 13. The composition of claim 1, wherein said filler material comprises substantially
2 spherical or spheroidal particles, each particle having a diameter of less than about 41
3 microns.

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- 1 18. An electronic package comprising:
2 a substrate having an upper surface;
3 a semiconductor chip mounted on a portion of said upper surface of said
4 substrate and electrically coupled to said substrate, said semiconductor chip having a
5 bottom surface and at least one edge surface being substantially perpendicular to said
6 bottom surface; and

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7 a material positioned on at least said portion of said upper surface of said
8 substrate and against at least a portion of said at least one edge surface of said
9 semiconductor chip, said material being an encapsulant composition which includes a
10 resin material, a flexibilizing agent comprising about 1 percent to about 5 percent by
11 weight of said composition, and a filler material.

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1 31. The electronic package of claim 18 wherein said flexibilizing agent is selected
2 from the group consisting of polysulfones, polyetherimide, polyamideimides,
3 polyarylene ethers, polyesters, polyarylates, polycarbonates, polyurethanes, hydroxy-
4 terminated polysulfone oligomers, 1,4-butane-diol diglycidyl ethers, neopentylglycol
5 diglycidyl ether, cyclohexane dimethanol diglycidyl ether, trimethylol ethane triglycidyl
6 ethers, dibromoneopentylglycol glycidyl ethers, propoxylated glycerol polyglycidyl
7 ether, polypropylene glycol glycidyl ether, polyglycidyl ether of castor oil, dimer acid
8 diglycidyl esters, resorcinol diglycidyl ether, epoxidized propylene glycol dioleates,
9 epoxy esters, 1,2-tetradecane oxides, internally epoxidized 1,3-butadiene
10 homopolymers, diglycidyl ether, glycidyl glycidate, bis(2,3-epoxy-2-methylpropyl)ether,
11 polyglycoldiepoxides, E-caprolactone triol, copolymers of styrene, butyl rubber,
12 neoprene, polysiloxanes, carboxyl terminated poly n-butylacrylates, maleic anhydride
13 terminated rubbers, epoxy functionalized rubbers, fluoridized rubbers, and hydroxylated
14 or carboxylated EPDM rubbers.

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1 36. The electronic package of claim 18 wherein said filler material comprises
2 substantially spherical or spheroidal particles, each particle having a diameter of less
3 than about 41 microns.

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1 41. A method of making an encapsulant composition, the method comprising the
2 steps of:
3 providing a first quantity of resin material;

4 adding to said first quantity of resin material a second quantity of flexibilizing
5 agent by homogenizing said flexibilizing agent in said first quantity of resin material by
6 reacting said resin material and said flexibilizing agent together at a temperature of
7 greater than about 100 degrees Celsius;

8 adding to said first quantity of resin material a third quantity of filler material;
9 and

10 blending said resin material.

Rule 126 44 43. A composition according to claim 1, in which said flexibilizer comprises a
1 44.
2 thermoplastic material containing a thermoplastic oligomer backbone.

45 44. A method according to claim 41, in which said flexibilizing agent comprises
1 44.
2 about 1 percent to about 5 percent by weight of said composition.